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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,158	06/14/2005	Robert H Detig	2349-104US//29,129-A-USA	2554

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SYNNESTVEDT LECHNER & WOODBRIDGE LLP
P O BOX 592
PRINCETON, NJ 08542-0592

EXAMINER	
LEE, BENJAMIN C	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/539,158	DETIG ET AL.	
	Examiner	Art Unit	
	Benjamin C. Lee	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *13-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-12* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *6/14/05* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Office Action

Election/Restrictions

1. Claims 13-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/2/06.

Claims Status

2. Claims 1-12 are currently pending for examination.

Claim Objection

3. Claims 3-7 and 10-11 are objected to because of the following informalities:

1) Line 4 of claim 3 should not be ended with a period. Depending claims 4-7 and 10-11 are similarly objected to for inheriting such informalities due to claim dependency.

2) Claim 6 is a duplicate of claim 4 and should be deleted.

--Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Since claims 9-11 are depended on claim 1 which already established "toner printing", claims 9-11 cannot further define such printing to be "inkjet printing" since the 2 are totally different printing technologies.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabau et al. (US 6,147,662).

1) Regarding claim 1, Grabau et al. discloses: An RFID device comprising: a substrate; an antenna means on said substrate, said antenna means being comprised of a metal toner printed in a pattern comprising at least one loop; at least one chip; and a connection means for electrically connecting said antenna means and said chip (col. 1, lines 54-67 and Fig. 3), except: specifying that the chip is the claimed a silicone chip.

However, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the "radio frequency identification chip" in Grabau et al. is an IC that can be implemented in the form of a silicon chip as conventionally done in the art.

2) Claim 8 (depends on claim 1): wherein said antenna means is printed on said substrate (col. 1, lines 58-59).

3) Claim 12 (depends on claim 1): further comprising a protective coating (col. 1, lines 65-67).

7. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabau et al. in view of Chung (US 6,404,643).

1) Regarding Claim 2, Grabau et al. renders obvious all the claimed subject matter as in claim 1, except the claimed wherein said connection means is comprised of an electrically conductive adhesive.

While Grabau et al. discloses providing a connection/contact between the antenna and the silicon chip, Chung further teaches that such connection can be done using electrically conductive adhesive (Fig. 15; col. 12, lines 51-63; col. 14, lines 20-35; col. 5, line 66 t col. 6, line 7).

In view of the teachings by Grabau et al. and Chung, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use electrically conductive adhesive as taught by Chung to form the connection between the chip and the antenna in Grabau et al. as a known, fast and convenient way for establishing the intended electrical connection.

2) Regarding Claim 9, Grabau et al. renders obvious all the claimed subject matter as in claim 8, except the claimed wherein printing is by electrostatic or inkjet printing methods.

While Grabau et al. discloses conductive ink printing without specifying inkjet printing (col. 1, line 59), Chung specifically teaches the known use of inkjet print of conductive elements including the antenna in an RFID device (col. 12, lines 51-63; col. 14, lines 20-35 and col; 5, line 66 to col. 6, line 7). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that inkjet printing of Chung is a specific type of ink printing in Grabau et al. and therefore to use such known inkjet printing.

8. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabau et al. in view of Takasugi et al. (US 6,837,438).

1) Regarding Claim 3, Grabau et al. renders obvious all the claimed subject matter as in claim 1, except the claimed wherein said connection means is a first coil means connected to said antenna means and a second coil means connected to said silicon chip; wherein said first coil means and said second coil means are proximally located thereby facilitating electrical communication.

In the same art of RFID construction, Takasugi et al. teaches an electromagnetic connection as claimed as an alternative to the electrical connection for electrical communication between the antenna and the chip (Figs. 18 in which "34" is the second coil, "29 is the first coil, and "22, 24" is the antenna) for extended communication range (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the connection in Grabau et al. using the first and second coils as taught by Takasugi et al. for the advantage of extended communication range so that attempted communication from an interrogator/reader with an RFID device that is located at an extended communication range can be more reliably taken place.

2) Claim 7 (depends on claim 3): Wherein said second coil means is located on said silicon chip (on-chip coil 32A in Fig. 13 of Takasugi et al.).

9. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabau et al. in view of Takasugi et al. and de Vall (US 5,608,417).

1) Regarding Claims 4 and 6, Grabau et al. and Takasugi et al. render obvious all the claimed subject matter as in claim 3, except the claimed wherein said first coil means is comprised of at least two loops wherein each of said at least two loops is separated by a layer of dielectric.

Takasugi et al. shows that the first coil means (29 of Fig. 18) comprises multiple turns and is in circuit with a tuning capacitor (24) for the antenna coil (22), and further illustrated the similar second coil means in the form of at least 2 loops (Fig. 8).

Furthermore, the formation of a coil means comprised of at least two loops wherein each of said at least two loops is separated by a layer of dielectric to simultaneously implement an inductive element and a capacitive element (as a result of the dielectric sandwiched between top and bottom loop conductors) as been known in the art, such as taught by de Vall in the same art of RFID construction (see figures).

In view of the teachings by Grabau et al., Takasugi et al. and de Vall, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use a known coil means construction of de Vall to form the first coil means in Grabau et al. and Takasugi et al. so as to simultaneously implement the inductive and capacitive elements to simplify the construction or construction steps or the need for a separate capacitor.

10. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabau et al. in view of Takasugi et al. and Chung.

1) Regarding Claim 10, Grabau et al. and Takasugi et al. render obvious all the claimed subject matter as in claim 3, except the claimed wherein said connection means is printed by electrostatic or inkjet printing methods.

While Grabau et al. discloses conductive ink printing without specifying inkjet printing (col. 1, line 59), Chung specifically teaches the known use of inkjet printing of conductive elements including the antenna and connecting means (pads, contacts, etc.) in an RFID device (col. 12, lines 51-63; col. 14, lines 20-35 and col. 5, line 66 to col. 6, line 7). It would have been

obvious to one of ordinary skill in the art at the time of the claimed invention that inkjet printing of Chung is a specific type of ink printing in Grabau et al. and Takasugi et al. and therefore to use such known inkjet printing in printing the connection means.

2) Regarding Claim 11, Grabau et al. and Takasugi et al. render obvious all the claimed subject matter as in claim 7, except the claimed wherein said second coil means is printed by electrostatic or inkjet printing methods.

While Grabau et al. discloses conductive ink printing without specifying inkjet printing (col. 1, line 59) and Takasugi et al. discloses the second coil means can be planar against the substrate (Fig. 8), Chung specifically teaches the known use of inkjet printing of conductive elements including the coil antenna and connecting means (pads, contacts, etc.) in an RFID device (col. 12, lines 51-63; col. 14, lines 20-35 and col. 5, line 66 to col. 6, line 7). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that inkjet printing of Chung is a specific type of ink printing in Grabau et al. and Takasugi et al. and therefore to use such known inkjet printing in printing the conductive elements including the second coil means.

Allowable Subject matter

11. Claim 5 is objected to as being depended on a rejected base claim, and would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims.

Conclusion

10 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) US 5654693, 4737789, 5084699

--Similar electromagnetic connection between chip and antenna in RFID.

2) US 6373447, 6552694, 4857893, 6181001, 6201296

--Similar on-chip antenna constructions.

3) US 6421013, 6618939, 5710458, 6262692

--Similar construction of various RFID tag components.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963. The examiner can normally be reached on Mon -Thur 9:00Am-5:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin C. Lee
Primary Examiner
Art Unit 2632

B.L.